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**Joint Tactical Radio System (JTRS) Standard
Device Simple Packet Signals
Application Program Interface (API)**



**Version: 1.1.2
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Statement A- Approved for public release; distribution is unlimited (29 March 2007)

REVISION HISTORY

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1.0		Initial release ICWG Approved	23-January-2006
1.1		Update outline format ICWG Approved	26-January-2006
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1.1.2		Errata: -Added #ifndef/#define wrapper in “DeviceSimplePacketSignals.idl” for CF.	02-April-2008

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A. DEVICE SIMPLE PACKET SIGNALS

A.1 INTRODUCTION

This document defines a common set of *Device Simple Packet Signals* interfaces to be used by Joint Tactical Radio (JTR) Set Applications and Services. The *Device Simple Packet Signals* interface provides the ability to set the maximum payload size, the minimum payload size, the desired payload size, and the minimum override time out value for the packet producer deriving this interface.

The *Device Simple Packet Signals* interfaces are documented within to minimize coupling between the device and service interfaces that utilize the *Device Simple Packet Signals* interfaces.

A.1.1 Overview

- a. Section A.1, *Introduction*, contains the introductory material regarding the overview and referenced documents of this document.
- b. Section A.2, *Services*, specifies the interfaces for the component, the port connections, and sequence diagrams.
- c. Section A.3, *Service Primitives and Attributes*, specifies the operations that are provided by the *Device Simple Packet Signals* interface.
- d. Section A.4, *IDL*.
- e. Section A.5, *UML*.
- f. Appendix A.A, *Abbreviations and Acronyms*.
- g. Appendix A.B, *Performance Specification*.

A.1.2 Service Layer Description

Not applicable.

A.1.3 Modes of Service

Not applicable.

A.1.4 Service States

Not applicable.

A.1.5 Referenced Documents

The following documents of the exact issue shown form a part of this specification to the extent specified herein.

A.1.5.1 Government Documents

A.1.5.1.1 Specifications

A.1.5.1.1.1 Federal Specifications

None

A.1.5.1.1.2 Military Specifications

None

A.1.5.1.2 Other Government Agency Documents

- [1] JTRS Standard, "Software Communications Architecture (SCA)," JPEO, Version 2.2.2.

A.1.5.2 Commercial Standards

None

A.2 SERVICES

A.2.1Provide Services

Not applicable.

A.2.2Use Services

Not applicable.

A.2.3Interface Modules

A.2.3.1 DevSimPktSig

A.2.3.1.1 DeviceSimplePacketSignals Interface Description

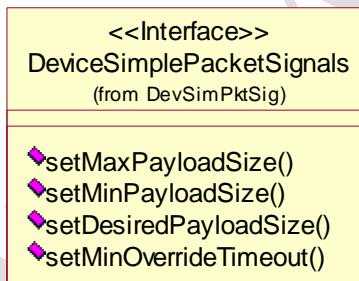


Figure 1 – DeviceSimplePacketSignals Class Diagram

The interface design of `DeviceSimplePacketSignals` is shown in Figure 1. It provides the ability to set the maximum payload size, the minimum payload size, the desired payload size, and the minimum override time out value for the packet producer deriving this interface. The `setMinPayloadSize` operation is used for asynchronous modes while the `setDesiredPayloadSize` operation is used for synchronous modes.

A.2.4Sequence Diagrams

None

A.3 SERVICE PRIMITIVES AND ATTRIBUTES

To enhance the readability of this API document and to avoid duplication of data, the type definitions of all structured types (i.e., data types, enumerations, exceptions, and structures) used by the Service Primitives and Attributes have been co-located in section A.5. This cross-reference of types also includes any nested structures in the event of a structure of structures or an array of structures.

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A.3.1DevSimPktSig::DeviceSimplePacketSignals

A.3.1.1 *setMaxPayloadSize* Operation

The *setMaxPayloadSize* operation sets the absolute maximum payload size allowed for a payload passed to the *pushPacket* operation.

A.3.1.1.1 Synopsis

```
void setMaxPayloadSize(in unsigned long maxPayloadSize)
raises(CF::PropertySet::InvalidConfiguration);
```

A.3.1.1.2 Parameters

Parameter Name	Description	Type	Units
maxPayloadSize	The absolute maximum payload size allowed for a payload.	unsigned long	bytes

A.3.1.1.3 State

Not applicable.

A.3.1.1.4 New State

Not applicable.

A.3.1.1.5 Return Value

None

A.3.1.1.6 Originator

Not applicable.

A.3.1.1.7 Exceptions

Exception	Attributes	Type	Description
CF::PropertySet:: InvalidConfiguration (see SCA [1])	invalidProperties	CF::Properties (see SCA [1])	Sequence of invalid properties.
	msg	string	A message of type string indicating that the exception has occurred.

A.3.1.2 *setMinPayloadSize* Operation

The *setMinPayloadSize* operation is used for asynchronous modes. It sets the minimum payload size allowed for a payload passed to the *pushPacket* operation. Note that payloads of 0 (zero) size (i.e. control packets) are exempt.

A.3.1.2.1 Synopsis

```
void setMinPayloadSize(in unsigned long minPayloadSize)
raises(CF::PropertySet::InvalidConfiguration);
```

A.3.1.2.2 Parameters

Parameter Name	Description	Type	Units
minPayloadSize	The minimum payload size allowed for a payload.	unsigned long	bytes

A.3.1.2.3 State

Not applicable.

A.3.1.2.4 New State

Not applicable.

A.3.1.2.5 Return Value

None

A.3.1.2.6 Originator

Not applicable.

A.3.1.2.7 Exceptions

Exception	Attributes	Type	Description
CF::PropertySet:: InvalidConfiguration (see SCA [1])	invalidProperties	CF::Properties (see SCA [1])	Sequence of invalid properties.
	msg	string	A message of type string indicating that the exception has occurred.

A.3.1.3 *setDesiredPayloadSize* Operation

The *setDesiredPayloadSize* operation is used for synchronous modes. It sets the desired payload size allowed for a payload passed to the *pushPacket* operation.

A.3.1.3.1 Synopsis

```
void setDesiredPayloadSize(in unsigned long desiredPayloadSize)
raises(CF::PropertySet::InvalidConfiguration);
```

A.3.1.3.2 Parameters

Parameter Name	Description	Type	Units
desiredPayloadSize	The desired payload size allowed for a payload.	unsigned long	bytes

A.3.1.3.3 State

Not applicable.

A.3.1.3.4 New State

Not applicable.

A.3.1.3.5 Return Value

None

A.3.1.3.6 Originator

Not applicable.

A.3.1.3.7 Exceptions

Exception	Attributes	Type	Description
CF::PropertySet:: InvalidConfiguration (see SCA [1])	invalidProperties	CF::Properties (see SCA [1])	Sequence of invalid properties.
	msg	string	A message of type string indicating that the exception has occurred.

A.3.1.4 *setMinOverrideTimeout* Operation

The *setMinOverrideTimeout* operation sets the time a payload smaller than “minPayloadSize” for asynchronous modes or the “desiredPayloadSize” for synchronous modes should be held before passed to the *pushPacket* operation.

A.3.1.4.1 Synopsis

```
void setMinOverrideTimeout(in unsigned long minOverrideTimeout)
raises(CF::PropertySet::InvalidConfiguration);
```

A.3.1.4.2 Parameters

Parameter Name	Description	Type	Units
minOverrideTimeout	The minimum time out value to be overridden.	unsigned long	milliseconds

A.3.1.4.3 State

Not applicable.

A.3.1.4.4 New State

Not applicable.

A.3.1.4.5 Return Value

None

A.3.1.4.6 Originator

Not applicable.

A.3.1.4.7 Exceptions

Exception	Attributes	Type	Description
CF::PropertySet:: InvalidConfiguration (see SCA [1])	invalidProperties	CF::Properties (see SCA [1])	Sequence of invalid properties.
	msg	string	A message of type string indicating that the exception has occurred.

A.4 IDL

A.4.1 DeviceSimplePacketSignals IDL

```
/*
** DeviceSimplePacketSignals.idl
*/

#ifndef __DEVICESIMPLEPACKETSIGNALS_DEFINED
#define __DEVICESIMPLEPACKETSIGNALS_DEFINED

#ifndef __CF_DEFINED
#include "CF.idl"
#endif

module DevSimPktSig {

    interface DeviceSimplePacketSignals {

        void setMaxPayloadSize (
            in unsigned long maxPayloadSize
        )
        raises (CF::PropertySet::InvalidConfiguration);

        void setMinPayloadSize (
            in unsigned long minPayloadSize
        )
        raises (CF::PropertySet::InvalidConfiguration);

        void setDesiredPayloadSize (
            in unsigned long desiredPayloadSize
        )
        raises (CF::PropertySet::InvalidConfiguration);

        void setMinOverrideTimeout (
            in unsigned long minOverrideTimeout
        )
        raises (CF::PropertySet::InvalidConfiguration);
    };
};

#endif
```

A.5 UML

Not applicable.

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APPENDIX A.A ABBREVIATIONS AND ACRONYMS

API	Application Program Interface
CF	Core Framework
ICWG	Interface Control Working Group
IDL	Interface Definition Language
JPEO	Joint Program Executive Office
JTRS	Joint Tactical Radio System
max	Maximum
min	Minimum
SCA	Software Communications Architecture
UML	Unified Modeling Language

APPENDIX A.B PERFORMANCE SPECIFICATION

Not applicable.

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